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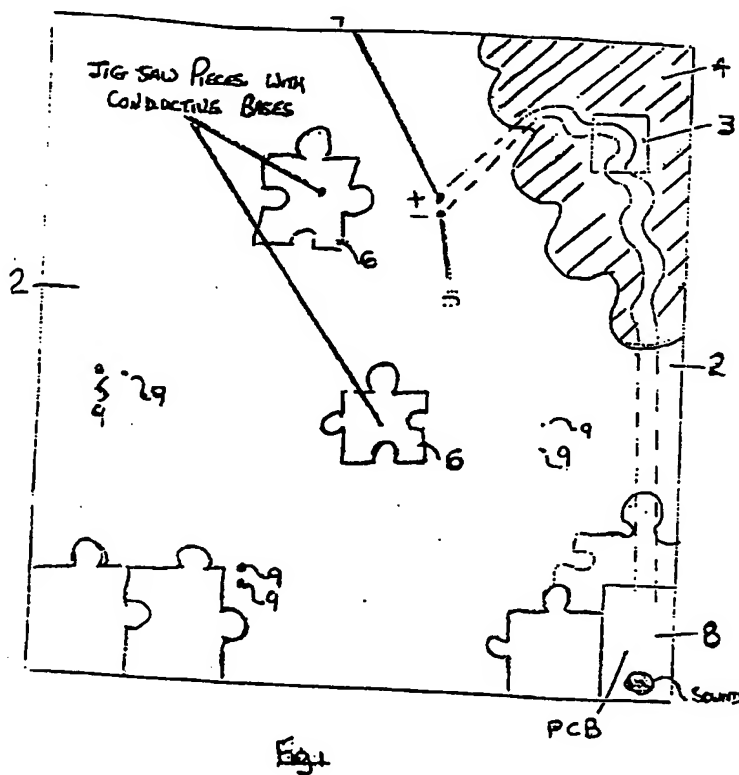
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(56) Documents Cited  
GB 2284359 A EP 0527269 A1 WO 95/06503 A1  
US 5087043 A US 4893817 A US 4348191 A

(58) Field of Search  
UK CL (Edition Q) A6H HKA HKB  
INT CL<sup>6</sup> A63F 9/10 9/12

(54) Abstract Title  
Jigsaw puzzle apparatus

(57) A puzzle apparatus comprises a base board and jigsaw puzzle pieces characterised in that the base board has a network of conductive tracks and the pieces have an electrically conductive base which on correct assembly bridges the tracks to permit passage of electric current and activation of a sound or light display.



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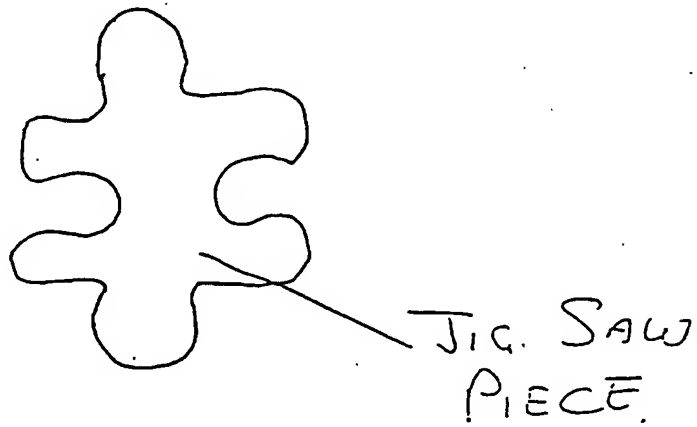
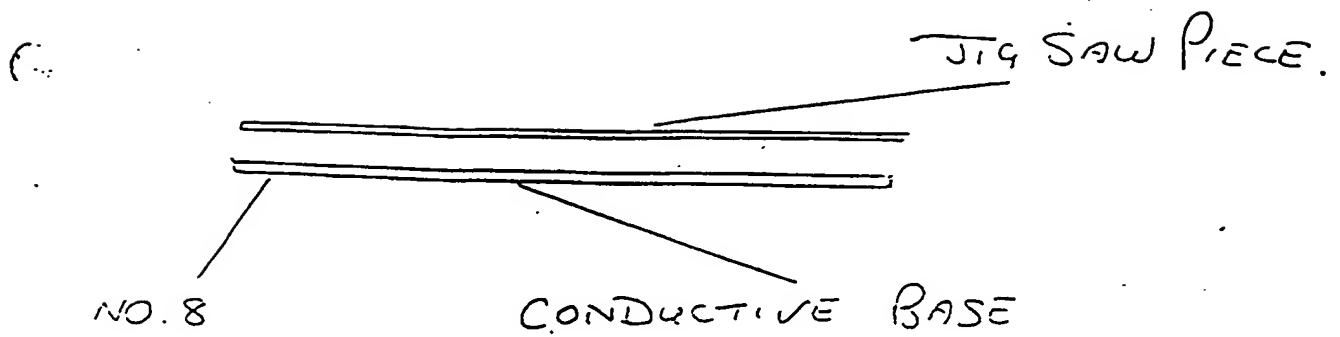


FIG 2.

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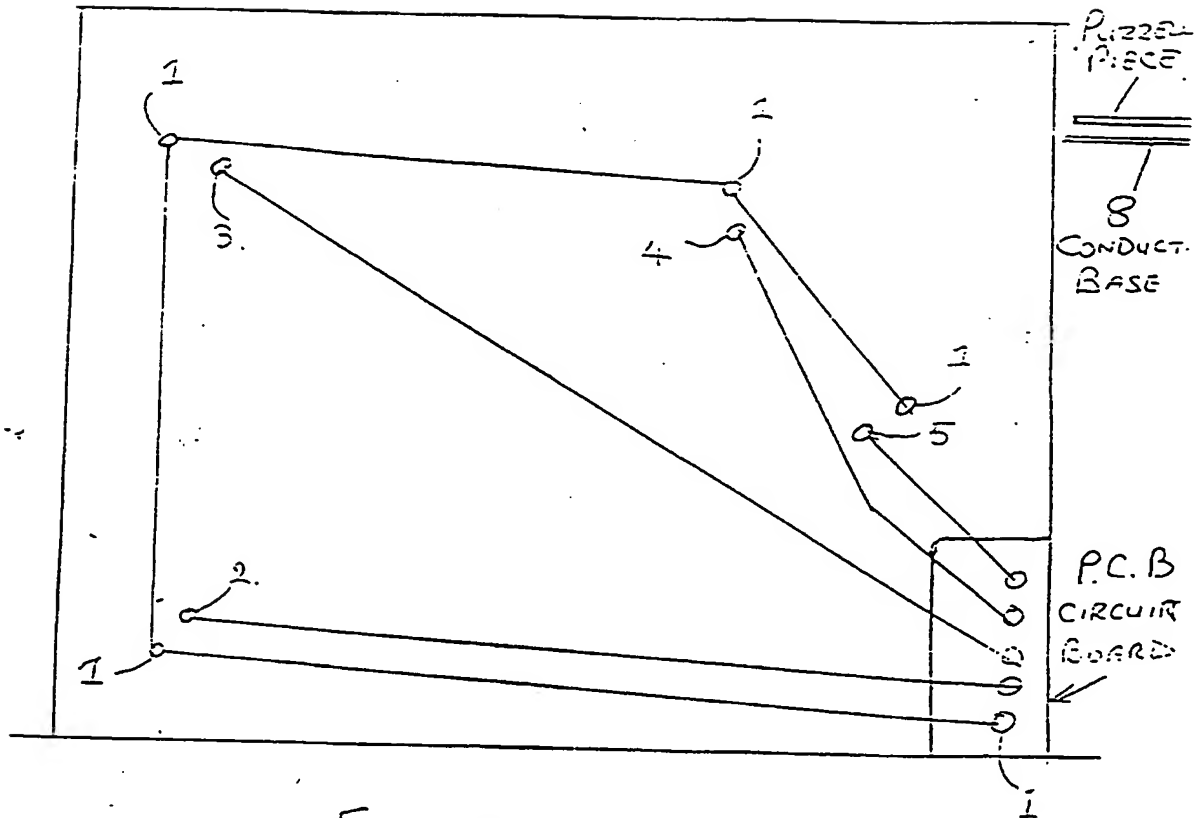


FIG 3

- 1. NEGATIVE CIRCUIT
- 2. FIRST POSITIVE CIRCUIT
- 3. SECOND POSITIVE CIRCUIT
- 4. THIRD POSITIVE CIRCUIT
- 5. FOURTH POSITIVE CIRCUIT
- 8. CONDUCTIVE BASE OF PUZZLE PIECE

THIS FIG SHOWS ONLY FOUR SOUNDING POSITIONS  
AS AN EXAMPLE, MORE CAN BE ADDED  
WHATEVER THE PUZZLE WOULD REQUIRE.

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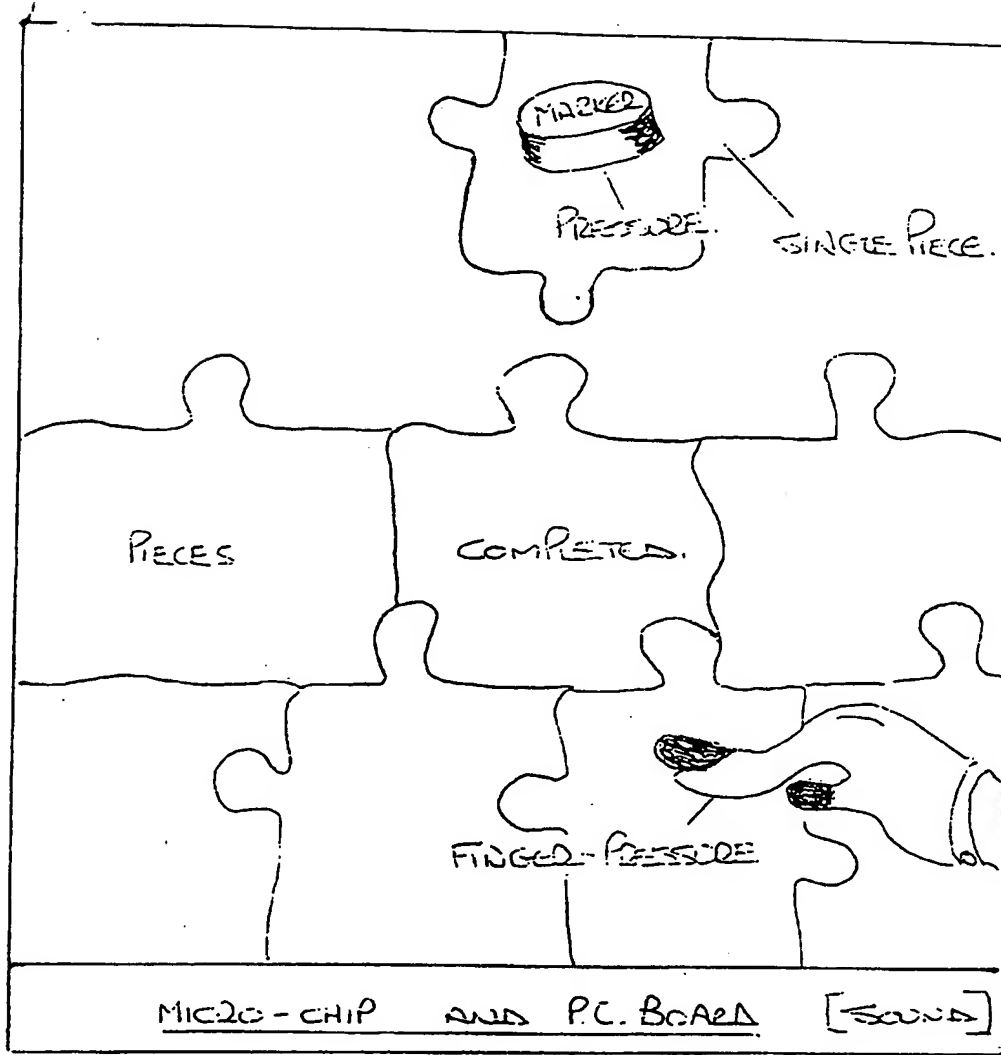
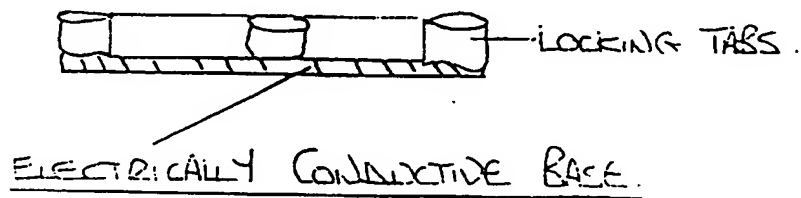


Fig 4



TITLEJIG SAW PUZZLE APPARATUS

1. IN GENERAL - IT HAS LONG BEEN ACCEPTED THAT JIG SAW PUZZLES FOR ONE OR MORE PERSONS HAVE REMAINED THE SAME FORMAT FOR GENERATIONS I NOW CLAIM A NEW AND NOVEL WAY OF ENHANCING PUZZLE GAME PLAY BY THE USE SOUND AND LIGHT.
2. THERE ARE 3 MAIN CONSTITUENTS WITHIN THE NEW APPARATUS.
  - a) THE PUZZLE LOCKING PIECES HAVING AN ELECTRICALLY CONDUCTIVE BASE.
  - b) THE PUZZLE BASE OR BOARD WHICH CARRIES NEGATIVE + POSITIVE ELECTRICAL CHARGES TO METALLIC CONTACTS WHICH BY WAY OF CONDUCTIVE PATHWAYS SITUATED BETWEEN THE UPPER PLAY SURFACE AND THE BOARD'S BASE ARE CONNECTED TO A P.C.B. (BOARDS) AS IN FIG 1.
  - c) THE P.C.B. BOARD, (CONTAINING SOUND AND LIGHT STIMULATION) IS SO ELECTRICALLY CONNECTED TO THE BASE BOARD, THAT WHEN A PUZZLE PIECE MAKES CONTACT WITH THE EXPOSED POSITIVE, AND NEGATIVE, CONTACTS WITHIN THE BOARD, THEN A SERIES OF SOUNDS, EGMUSICAL OR VERBAL (IF REQUIRED) ALONG LIGHT IMITTING INSTRUCTION OR REWARDS, ARE GIVEN AS IN FIG 2.

3. **BOARD CONSTRUCTION**

THIS CAN BE BY WAY OF METAL, PLASTIC, WOOD, OR CARD-BOARD, OR ANY OTHER SUCH SUITABLE MATERIAL.

4. **FURTHER EMBODIMENT OF THIS APPARATUS**  
**FINGER PRESSURE**

THAT FOLLOWING COMPLETION OF THE PUZZLE FURTHER OR ADDITIONAL SOUNDS OR LIGHTS MAY BE EMITTED WHEN CERTAIN PLAYING PIECES BY WAY OF FINGER PRESSURE ARE PRESSED.

5. **IN SIMPLE TERMS:-** THE INTRODUCTION OF SOUNDS, MUSICAL OR, VERBAL TONES, AND INSTRUCTIONS, ALONG WITH LIGHT EMITTING SEQUENCES, ALL COMBINED TO RESPOND TO PIECE PLACEMENT, OR ADDITIONAL RANDOM FINGER PRESSURE, ON COMPLETION, I CLAIM, TO BE, A NOVEL, AND NEW INVENTION WITHIN JIG SAW CONSTRUCTION.

6. **PRESSURE PLAYING SURFACE**

A JIGSAW PUZZLE - WHEN, WETHER IT IS COMPLETE, OR INCOMPLETE, SOUNDS, OR VOCALS, ALONG WITH THE LIGHT EMITTING APPARATUS, CAN BE ACTIVATED, BY (WAY OF) PLACING A FINGER WITH APPLIED PRESSURE ONTO A JIGSAW PIECE FIG 4.

## **DESCRIPTION**

### **1. THE PLAYING BOARD SURFACE**

HAS AT PRE SELECTED POSITIONS A SERIES OF HOLES THROUGH WHICH PROTRUDE, POSITIVE AND NEGATIVE, ELECTRICAL PINS, ANCHORED TO A SANDWICHED CONDUCTIVE MATERIAL EG PRINTED CIRCUIT BOARD, WIRING, OR OTHER SUCH COPPER BASED SYSTEM. WHICH IN TURN IS CONNECTED TO THE P.C.B.

### **2. THE CONDUCTIVE JIG SAW PLAYING PIECES**

THE PLAYING PIECES MAYBE OF ANY PARTICULAR INTERLOCKING (OR OTHERWISE) SHAPE, THICKNESS, OR DESIGN, HAVING ANELECTRICALLY CONDUCTIVE BASE, WHICH WHEN CORRECTLY POSITIONED, AND PRESSED ACTIVATES THE SOUND, LIGHT, EMITTING DEVICE, SITUATED ON, OR AROUND THE BOARD.



## CLAIMS

- CLAIM 1.** AN ELECTRONIC SOUND PRODUCING JIGSAW PUZZLE APPARATUS, USING CONDUCTIVE JIG SAW PIECES, WHICH WHEN PLACED UPON PRESELECTED AREAS ON THE PUZZLE BOARD, ACTIVATES A MICRO-CHIP PC BOARD, PLACED ON, OR AROUND, THE PUZZLE BOARD, TO PRODUCE INTERMITTENT SOUNDS, BEING MUSICAL, OR VERBAL, INSTRUCTIONS.
- CLAIM 2.** AN ELECTRONIC SOUND PRODUCING JIGSAW PUZZLE AS CLAIMED IN CLAIM 1 WHERE UPON THE TOP SURFACE OF THE PUZZLE PIECES, MAYBE PRINTED IN AN ASSORTMENT OF PICTURE PUZZLES.
- CLAIM 3.** AN ELECTRONIC SOUND PRODUCING JIGSAW PUZZLE AS CLAIMED IN CLAIM 1 WHERE WITHIN THE BASE BOARD IS LOCATED AN ELECTRICAL CIRCUITARY SYSTEM CONNECTED TO A PC BOARD SITUATED UPON OR AROUND ITS SURFACE, AND SO CONSTRUCTED AS TO INTERACT WITH THE ELECTRICALLY CONDUCTING BASE OF A NUMBER OF PRESELECTED PUZZLE PIECES DEPENDANT UPON SIZE REQUIREMENT.
- CLAIM 4.** AN ELECTRONIC SOUND PRODUCING JIGSAW PUZZLE AS CLAIMED IN CLAIM 1 WHERE A MICRO-CHIP AND SOUND PRODUCING APPARATUS IS LOCATED WITHIN, ON, OR AROUND, THE SAID JIGSAW PUZZLE.
- CLAIM 5.** AN ELECTRONIC SOUND PRODUCING JIGSAW PUZZLE AS CLAIMED IN CLAIM 1 WHERE THE JIGSAW PUZZLE APPARATUS ACCORDING TO CLAIM 4 INCLUDES A MICRO-CHIP AND PC BOARD COMBINATION BEING LOCATED AT THE SIDE OF THE PUZZLE BOARD.

**CLAIM 6.** ELECTRONIC SOUND PRODUCING JIGSAW PUZZLE AS CLAIMED IN CLAIM 1 WHERE A JIGSAW FULLY PIECED TOGETHER OR PART COMPLETE MAYBE ACTIVATED BY USE OF FINGER PRESSURE ON THE SELECTED PIECE OR BY ANY OTHER MEANS TO PRODUCE THE REQUISITE SOUND OR SOUNDS EG A MARKER AS IN FIG 4.

**CLAIM 7.** AN ELECTRONIC SOUND PRODUCING JIGSAW PUZZLE AS CLAIMED IN CLAIM 1 WHERE THE ENTIRE PUZZLE MAYBE MANUFACTURED FROM WOOD CARD PLASTIC OR ANY OTHER SUITABLE MATERIAL.

**CLAIM 8.** I CLAIM AS IN CLAIM 1 - AN INNOVATIVE STEP AND NOVEL IDEA OR INVENTION - WHERE SOUNDS - ORAL MUSICAL OR INSTRUCTIVE ARE PROVIDED WITHIN A JIGSAW PUZZLE ALONG WITH EMITTING LIGHTS TO GIVE INSTRUCTIONS OR SIMILAR.

WITH THE ELECTRONICALLY CONDUCTIVE JIGSAW PIECES IN CONJUNCTION WITH THE RESPONSIVE BASE BOARD BEING CRUCIAL TO THE JIGSAW'S NOVELTY AND INNOVATION.



Application No: GB 9905354.8  
Claims searched: 1 to 8

Examiner: Alan Blunt  
Date of search: 20 September 1999

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): A6H (HKA, HKB)

Int Cl (Ed.6): A63F 9/10, 9/12

Other:

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2284359A (HART) - whole document	1 to 8
X	EP 0527269A1 (CHANG) - knob 52	1 to 8
X	US 5087043 (BILLINGS) - whole document	1 to 8
X	US 4893817 (SHILO) - whole document	1 to 8
X	US 4348191 (LIPSITZ) - whole document	1 to 8
X	WO 95/06503A1 (ERLIGMANN) - whole document	1 to 8

X Document indicating lack of novelty or inventive step  
Y Document indicating lack of inventive step if combined with one or more other documents of same category.

& Member of the same patent family

A Document indicating technological background and/or state of the art.  
P Document published on or after the declared priority date but before the filing date of this invention.  
E Patent document published on or after, but with priority date earlier than, the filing date of this application.